Main LV distribution industrial plant

NSHV with transformer metering, measured feeders,
NA protection, PV and battery storage

Company	OpenECraft
Created by	OpenECraft
Date	2026-11-02
Revision	A
Number of pages	21

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3/PEN AC 400 V 50 Hz; 2 x NAYY-J 4 x 240 from house connection boxes 1 and 2 (a third prepared)

=MS+HV1-P1
Transformer metering 400/5 A
=MS+HV1/2.2.7
Wh

=MS+HV1-F10
Isolation, solid links
=MS+HV1/2.2.3

=MS+HV1-Q10
Isolation, solid links
=EMS+HV2/2.3.3

=EMS+HV2-P5
Zero export UMG 604-PRO
=EMS+HV2/2.3.7
Wh

Distribution busbar, 185 mm

=DIST+HV2-Q21
DC charging
=DIST+HV2/3.2.3
=DIST+HV2/3.2.4
=DIST+HV2/3.2.5
=DIST+HV2/3.2.3

=DIST+HV2-Q22
UV workshop
=DIST+HV2/3.3.3
=DIST+HV2/3.3.4
=DIST+HV2/3.3.5
=DIST+HV2/3.3.3

=DIST+HV2-Q23
UV offices
=DIST+HV2/3.4.3
=DIST+HV2/3.4.4
=DIST+HV2/3.4.5
=DIST+HV2/3.4.3

=DIST+HV2-Q24
Air conditioning
=DIST+HV2/3.5.3
=DIST+HV2/3.5.4
=DIST+HV2/3.5.5
=DIST+HV2/3.5.3

=DIST+HV2-Q25
Heat pump 1
=DIST+HV2/3.1.2

=DIST+HV2-Q26
Heat pump 2
=DIST+HV2/3.1.6

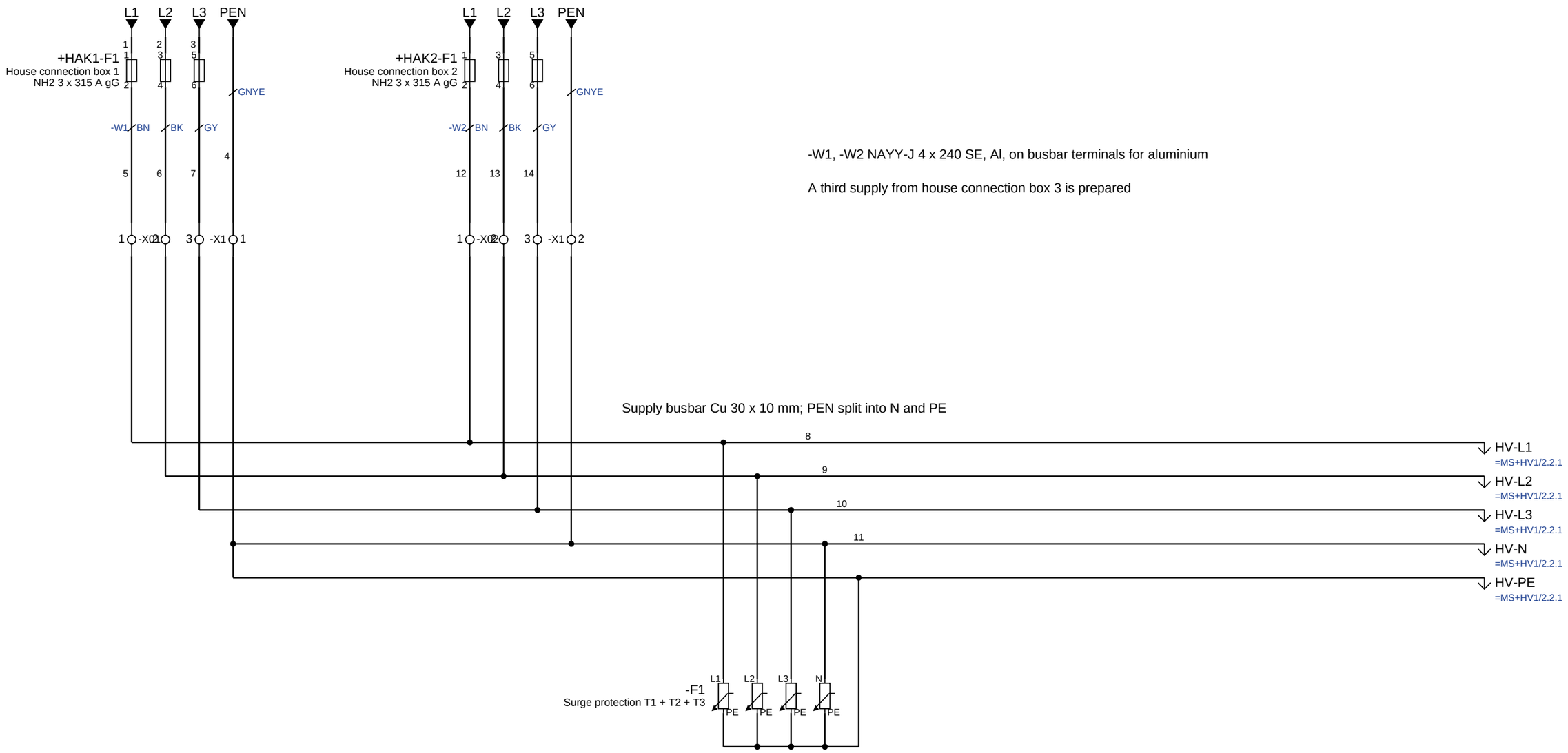
=NA+HV1-Q30
Coupling PV
=NA+HV1/4.1.1
=NA+HV1/4.2.3
=NA+HV1/4.2.5

=NA+HV1-Q31
Coupling battery
=NA+HV1/4.1.3
=NA+HV1/4.2.4
=NA+HV1/4.2.7

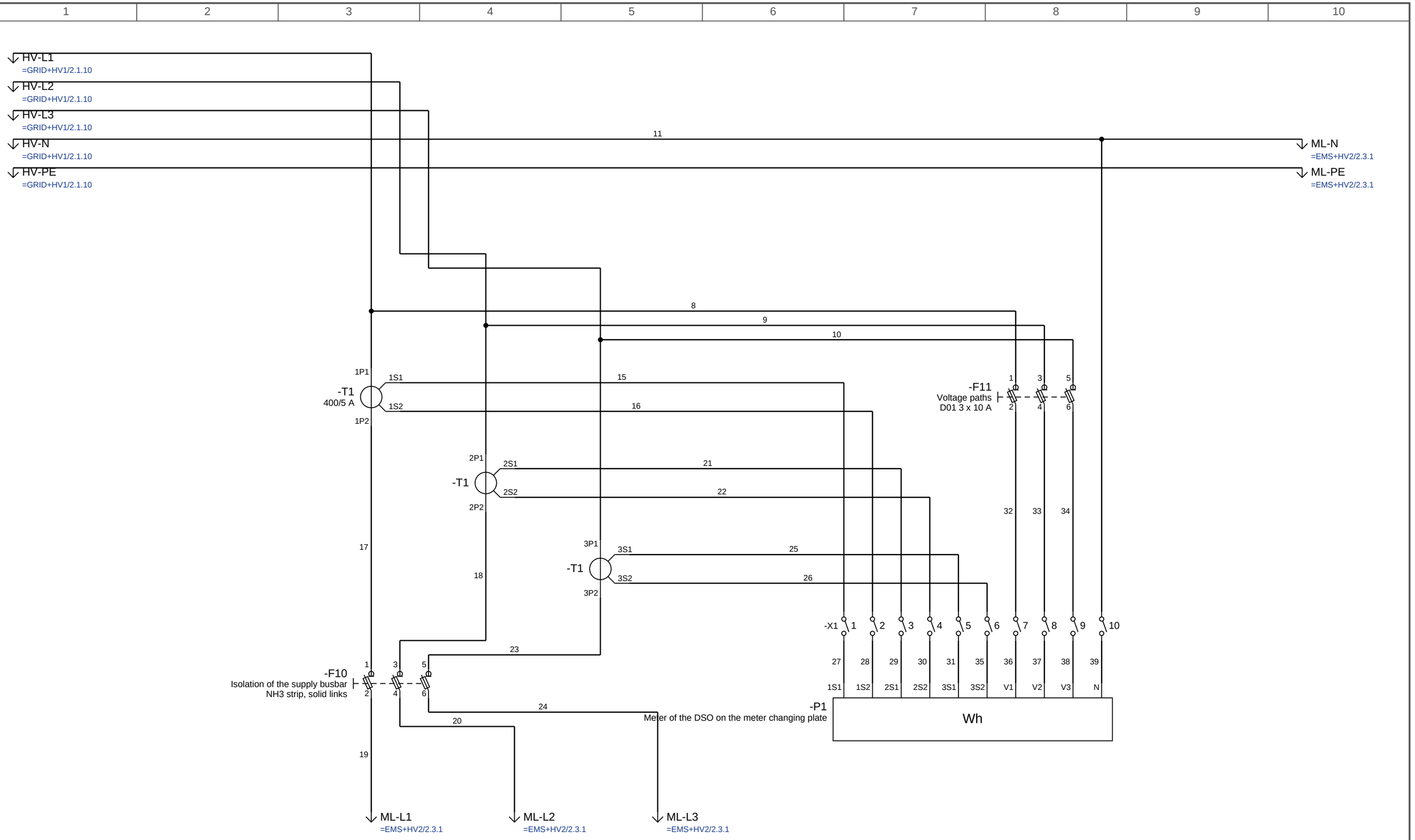
=PV+HV1-Q41
Inverter
=PV+HV1/5.1.2

=PV+HV1-Q42
Inverter
=PV+HV1/5.1.6

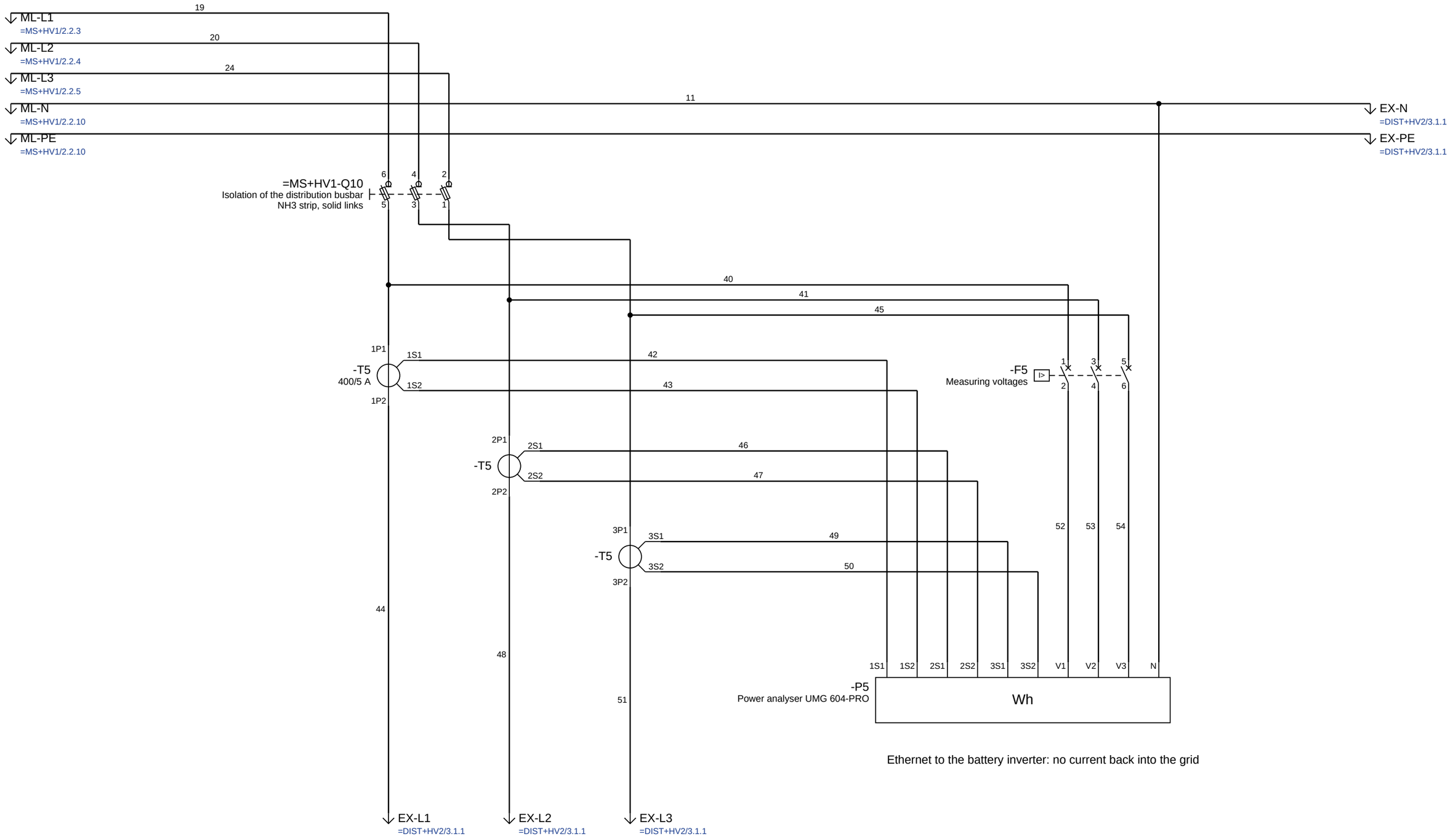
Company: OpenECraft	Date: 2026-11-02	Revision: A	Project / page description: Main LV distribution industrial plant	Page: 1.3	Sheet: 3 / 21
	Creator: OpenECraft	Software: OpenECraft	Single-line diagram	Type: Overview	Project: Main LV distribution industrial plant



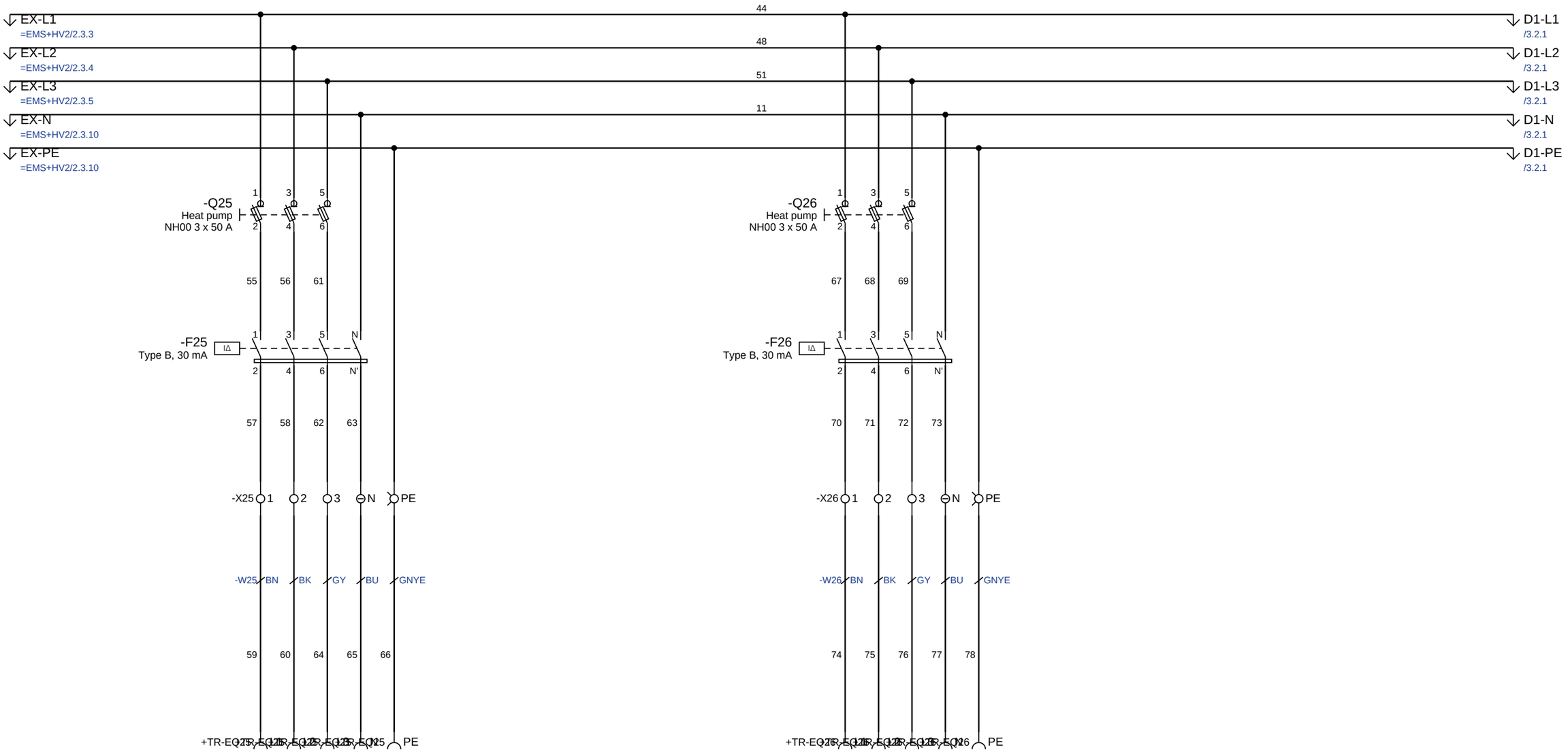
Company: OpenECraft	Date: 2026-11-02	Revision: A	Project / page description: Main LV distribution industrial plant	Page: =GRID+HV1/2.1	Sheet: 4 / 21
	Creator: OpenECraft	Software: OpenECraft	Supplies and surge protection	Type: Schematic	Project: Main LV distribution industrial plant



Company	Date	Revision	Project / page description	Page	Sheet
OpenECraft	2026-11-02	A	Main LV distribution industrial plant	=MS+HV1/2.2	5 / 21
	Creator	Software	Transformer metering	Type	Project
	OpenECraft	OpenECraft		Schematic	Main LV distribution industrial plant

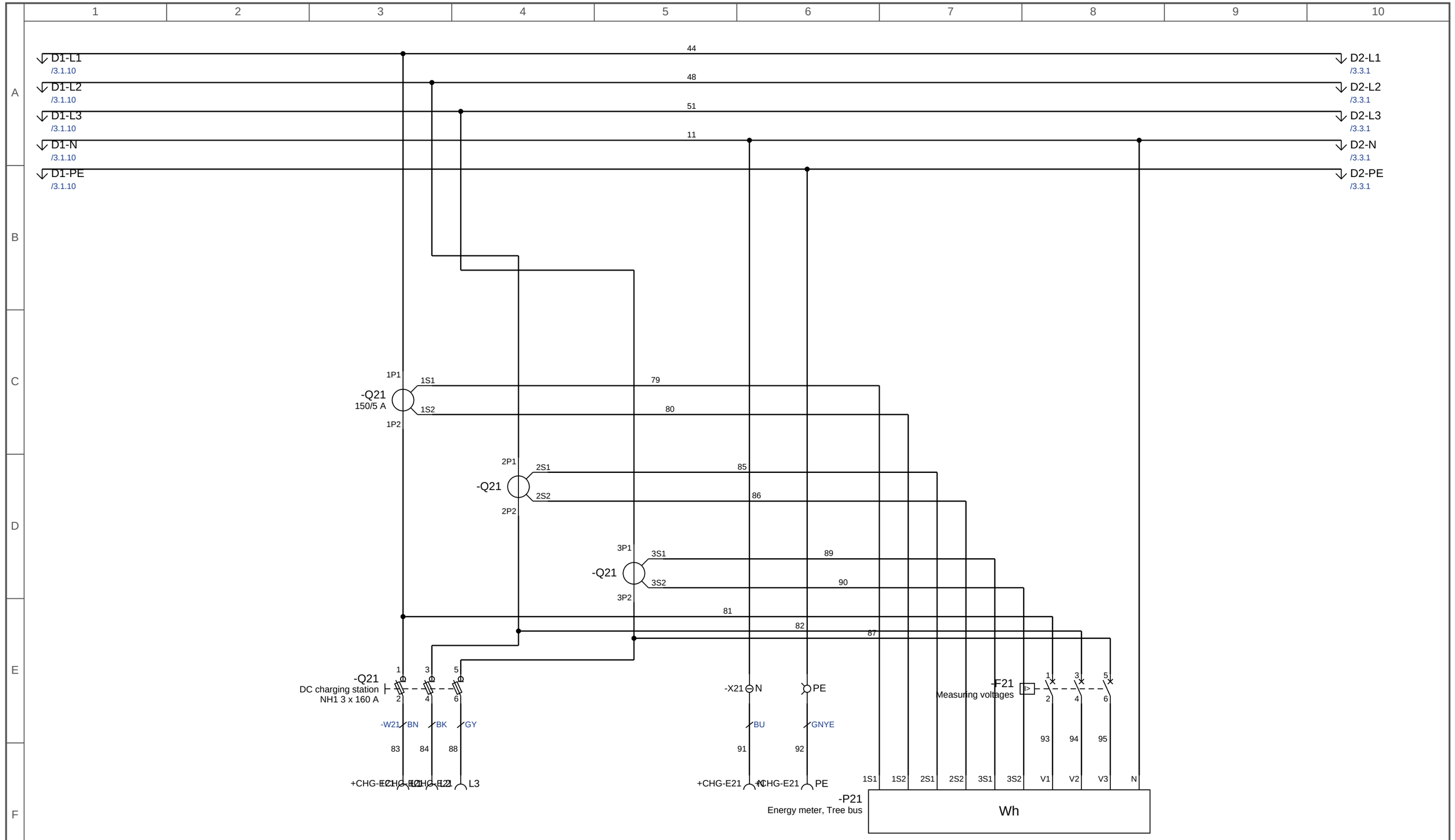


Company: OpenECraft	Date: 2026-11-02	Revision: A	Project / page description: Main LV distribution industrial plant	Page: =EMS+HV2/2.3	Sheet: 6 / 21
	Creator: OpenECraft	Software: OpenECraft	Zero export of the battery storage	Type: Schematic	Project: Main LV distribution industrial plant

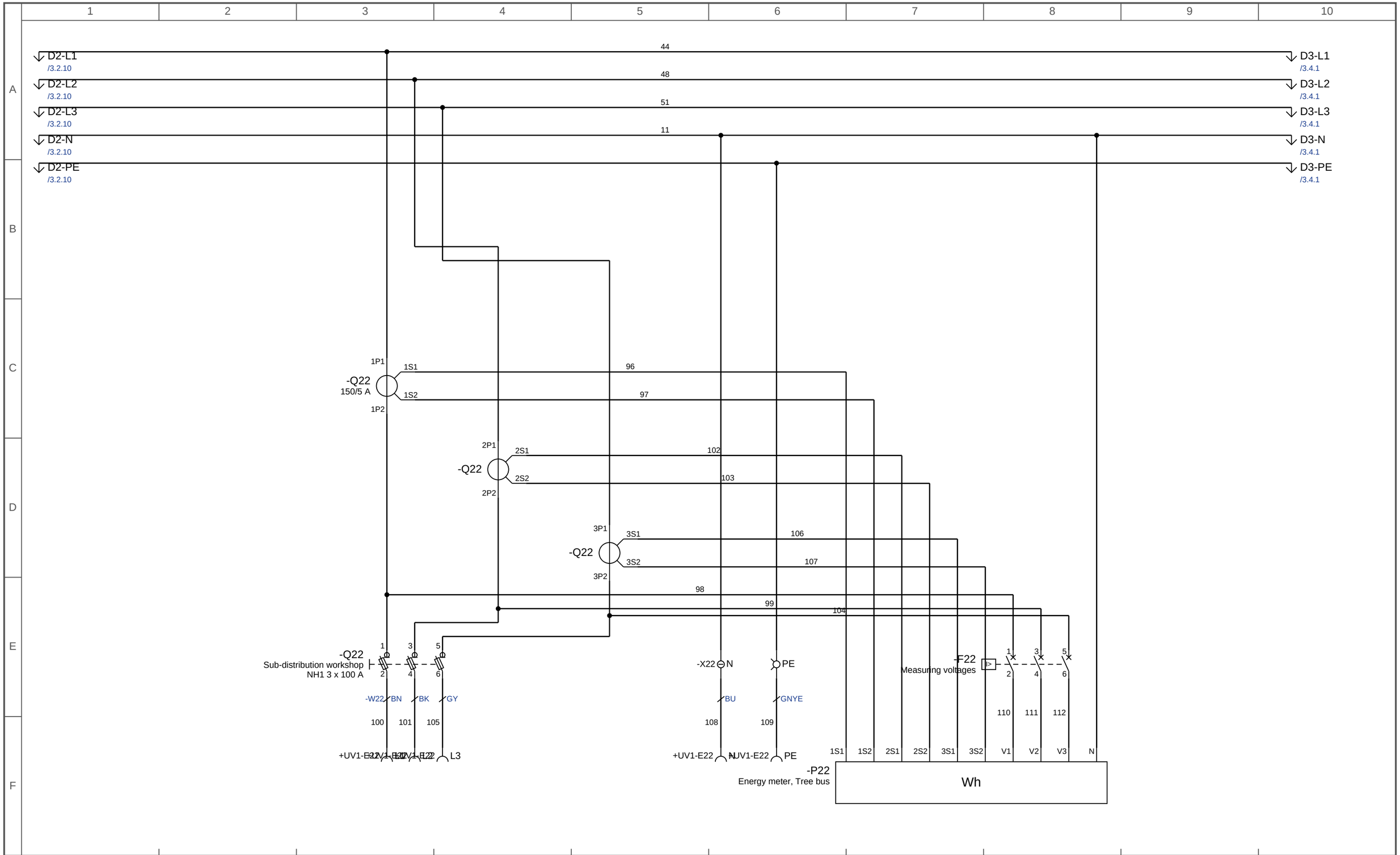


Heat pumps with inverters: residual current devices of type B

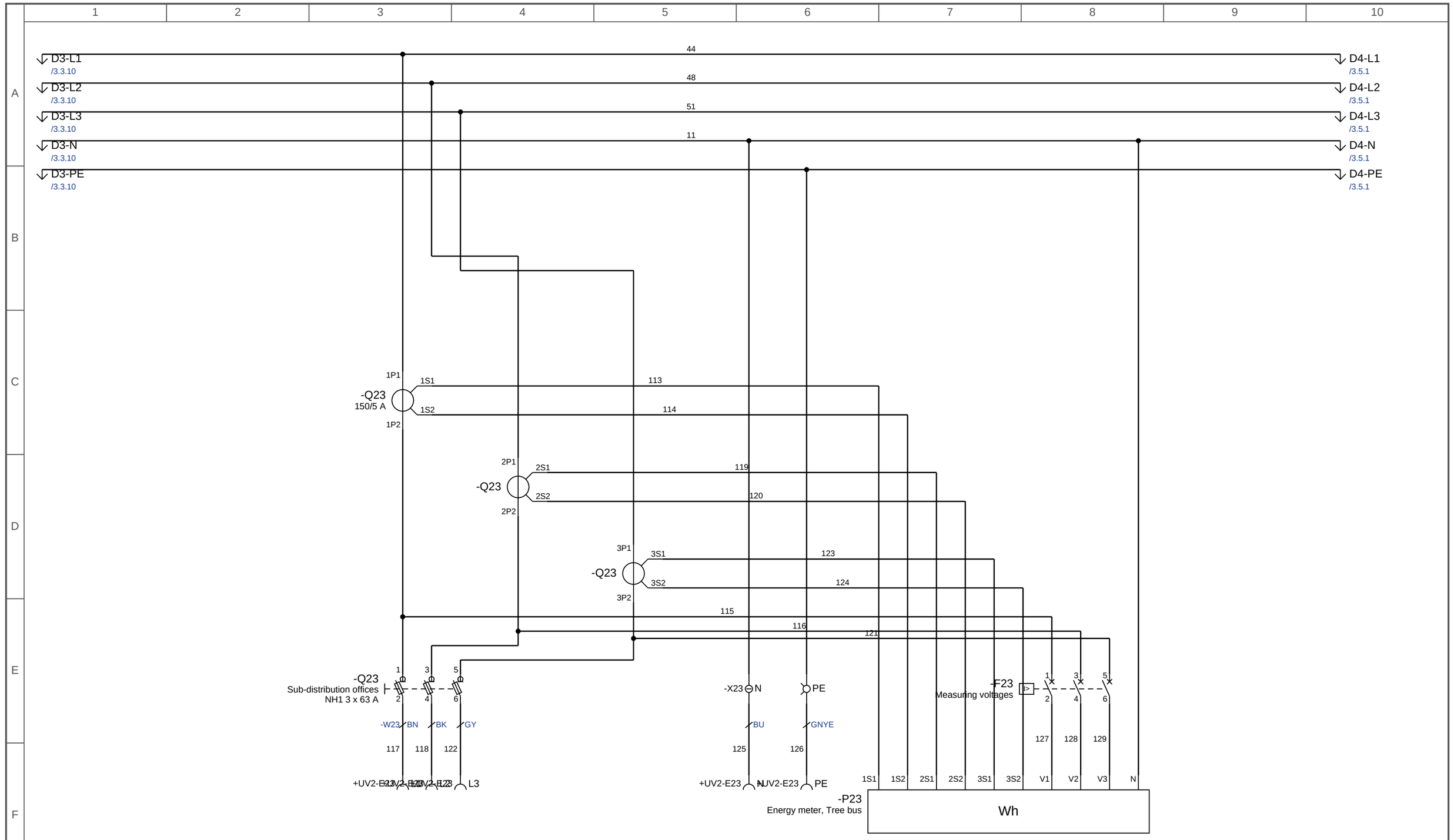
Company	Date	Revision	Project / page description	Page	Sheet
OpenECraft	2026-11-02	A	Main LV distribution industrial plant	=DIST+HV2/3.1	7 / 21
	Creator	Software	Heat pumps	Type	Project
	OpenECraft	OpenECraft		Schematic	Main LV distribution industrial plant



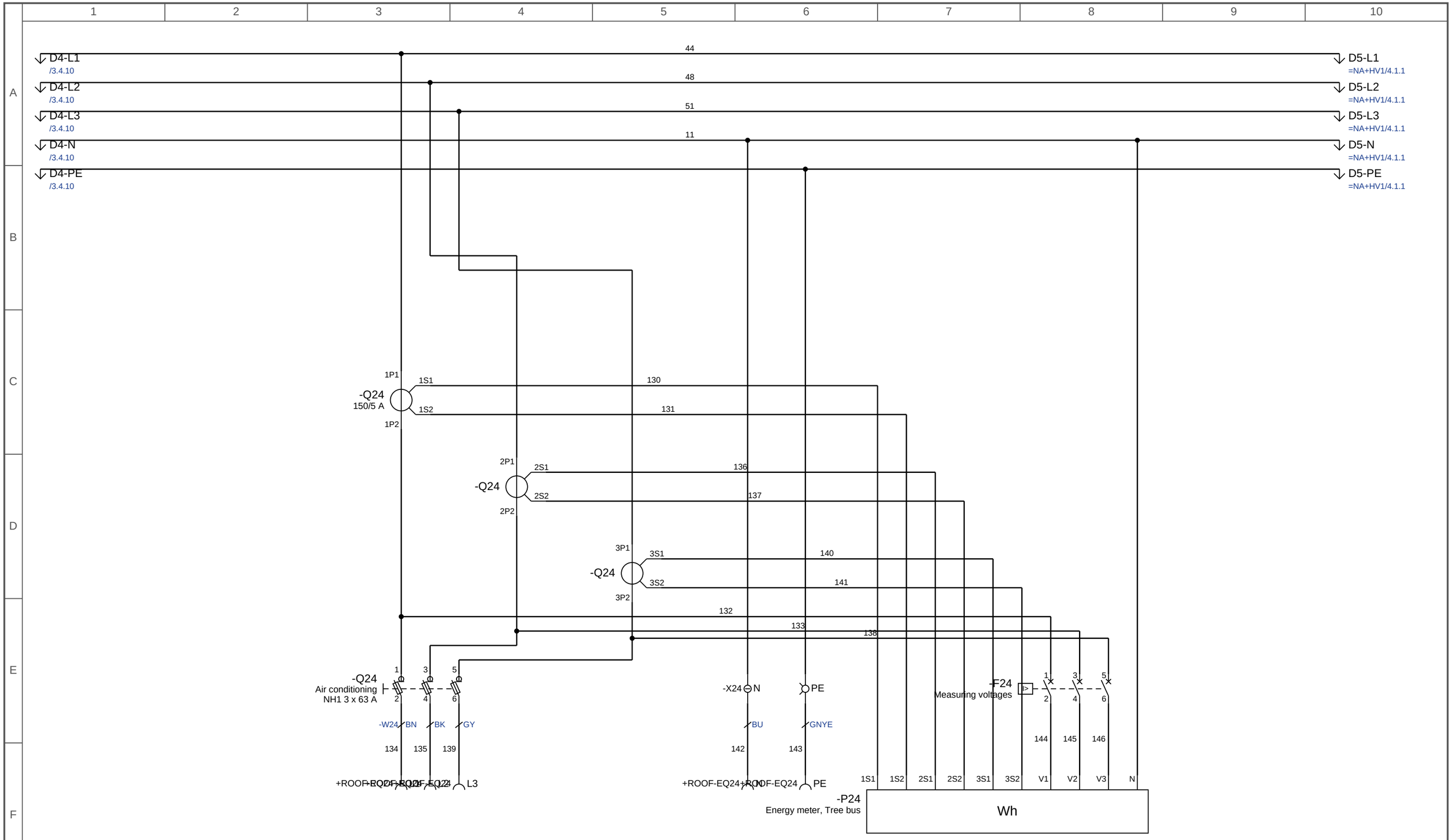
Company	Date	Revision	Project / page description	Page	Sheet
OpenECraft	2026-11-02	A	Main LV distribution industrial plant	=DIST+HV2/3.2	8 / 21
	Creator	Software	DC charging station	Type	Project
	OpenECraft	OpenECraft		Schematic	Main LV distribution industrial plant



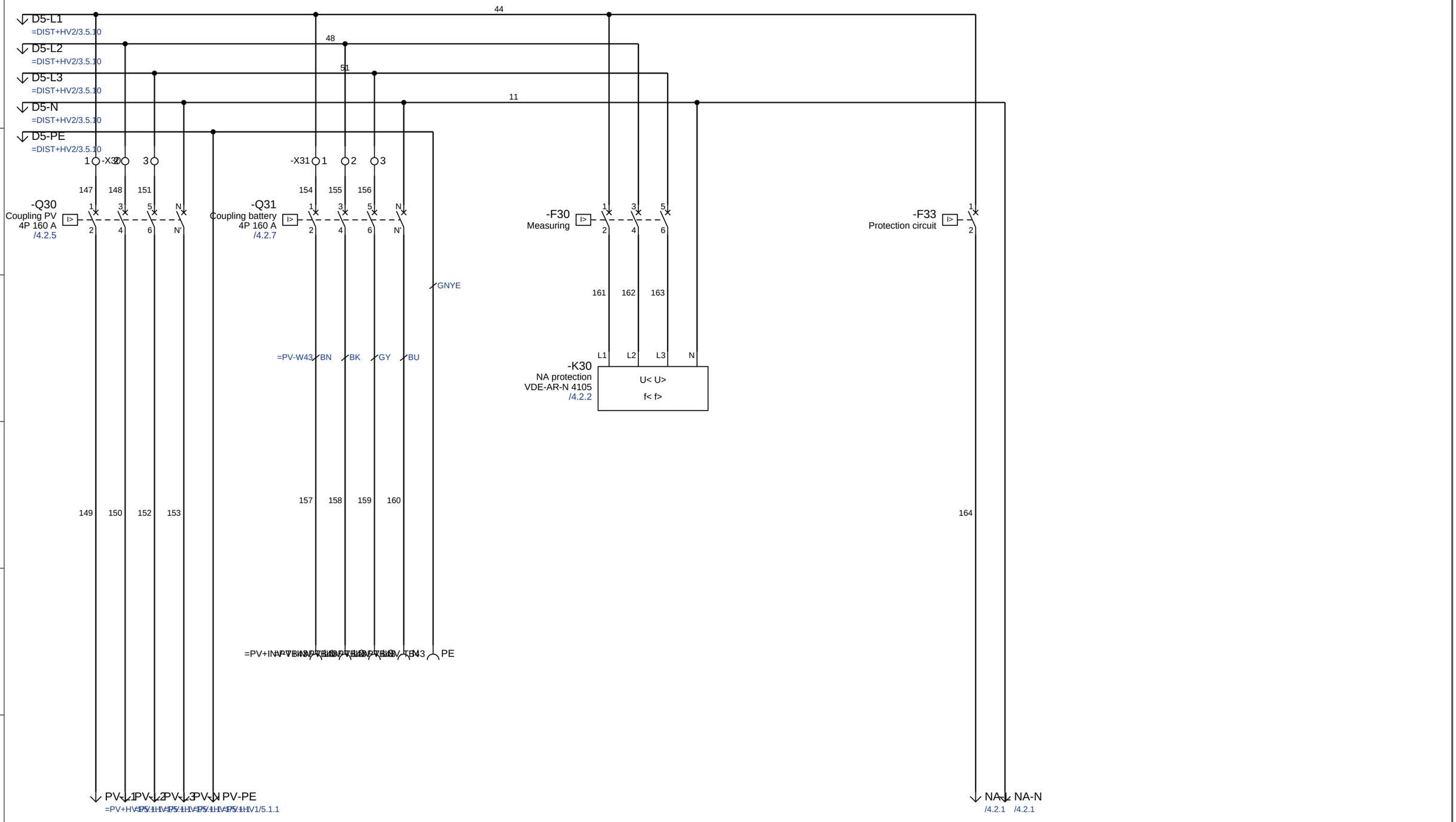
Company	Date	Revision	Project / page description	Page	Sheet
OpenECraft	2026-11-02	A	Main LV distribution industrial plant	=DIST+HV2/3.3	9 / 21
	Creator	Software	Sub-distribution workshop	Type	Project
	OpenECraft	OpenECraft		Schematic	Main LV distribution industrial plant



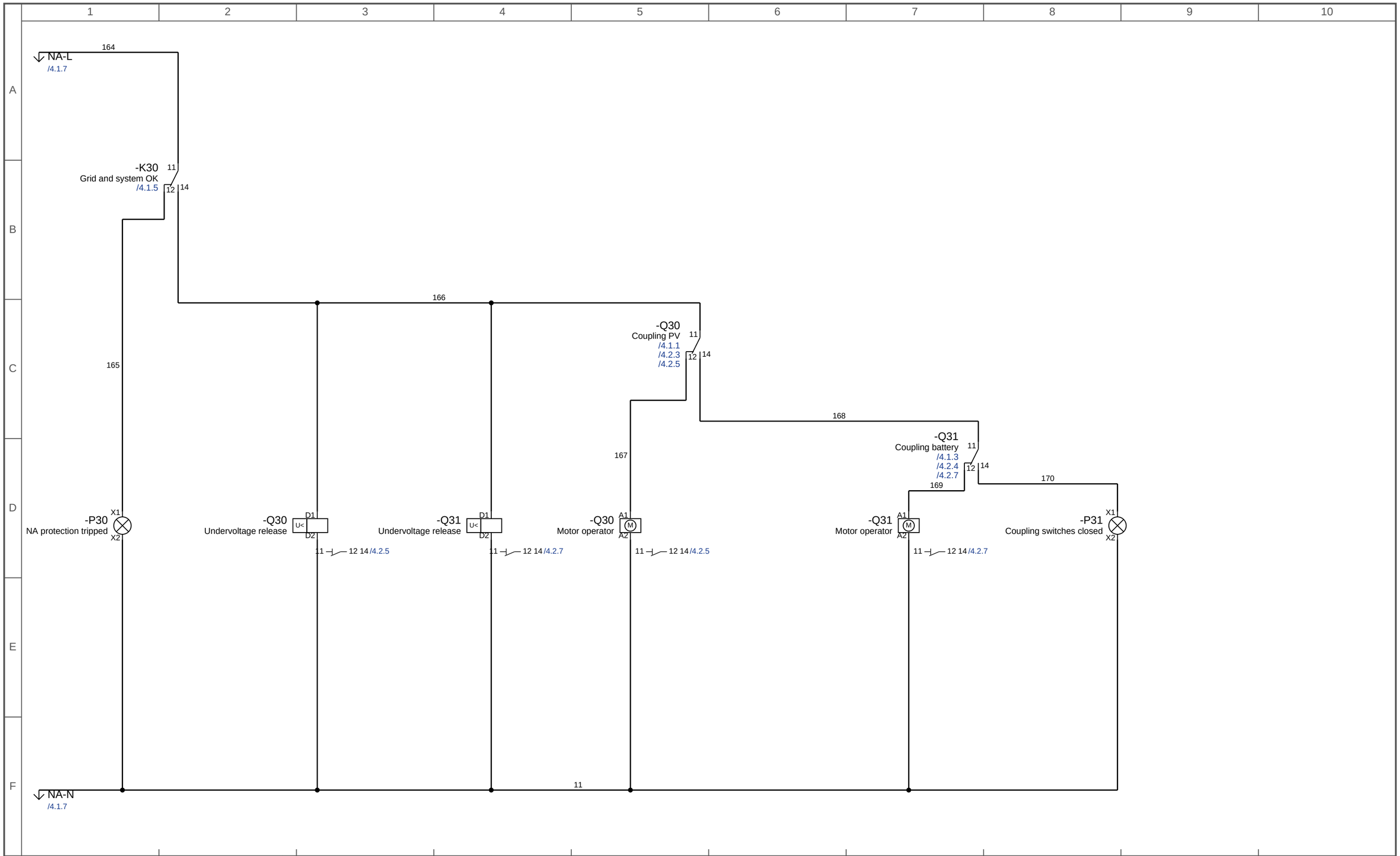
Company OpenECraft	Date 2026-11-02	Revision A	Project / page description Main LV distribution industrial plant	Page =DIST+HV2/3.4	Sheet 10 / 21
	Creator OpenECraft	Software OpenECraft	Sub-distribution offices	Type Schematic	Project Main LV distribution industrial plant



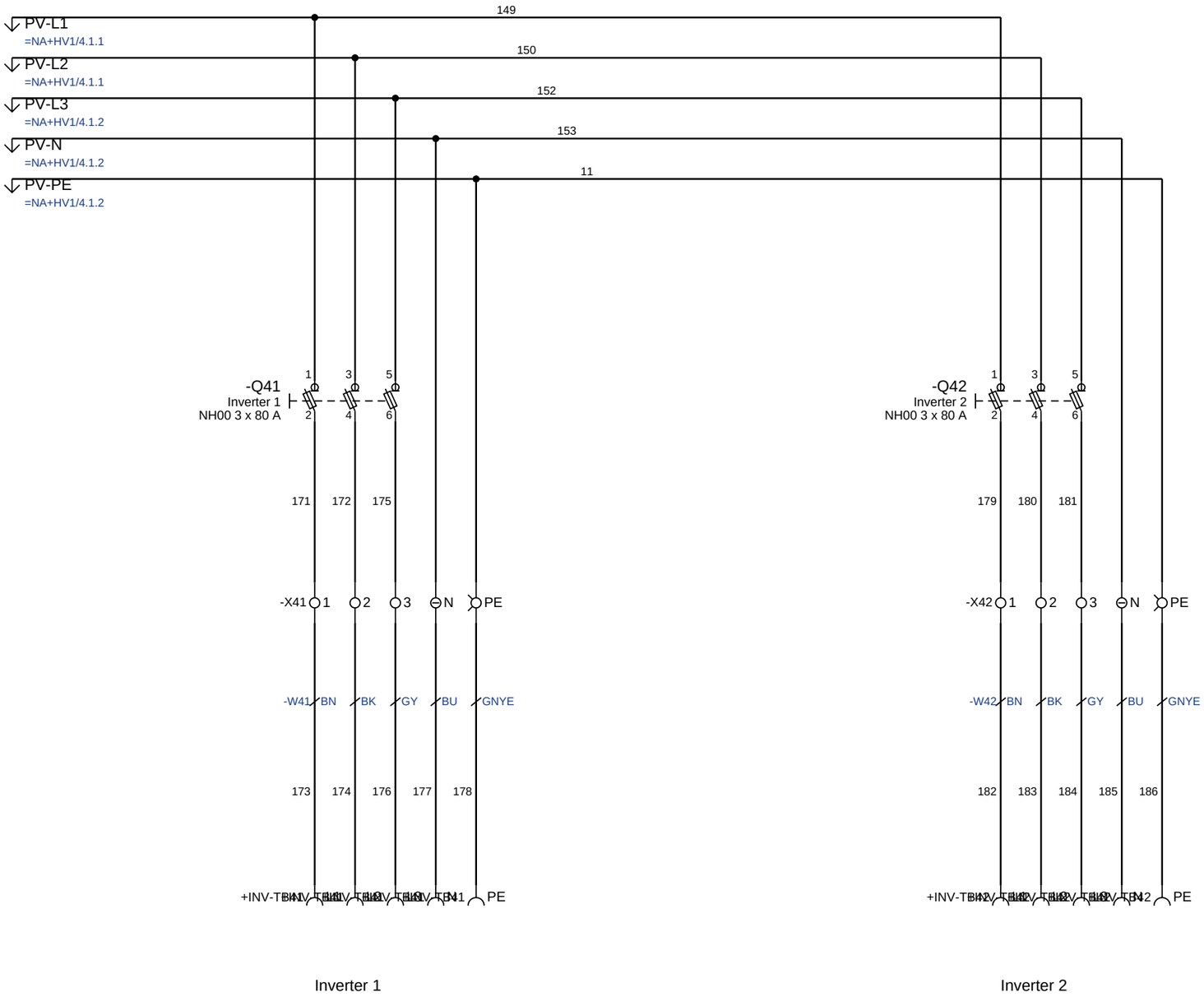
Company	Date	Revision	Project / page description	Page	Sheet
OpenECraft	2026-11-02	A	Main LV distribution industrial plant	=DIST+HV2/3.5	11 / 21
	Creator	Software	Air conditioning	Type	Project
	OpenECraft	OpenECraft		Schematic	Main LV distribution industrial plant



Company	Date	Revision	Project / page description	Page	Sheet
OpenECraft	2026-11-02	A	Main LV distribution industrial plant	=NA+HV1/4.1	12 / 21
	Creator: OpenECraft	Software: OpenECraft	Coupling switches and NA protection relay	Type: Schematic	Project: Main LV distribution industrial plant



Company	Date	Revision	Project / page description	Page	Sheet
OpenECraft	2026-11-02	A	Main LV distribution industrial plant	=NA+HV1/4.2	13 / 21
	Creator	Software	Releases and motor operators	Type	Project
	OpenECraft	OpenECraft		Schematic	Main LV distribution industrial plant

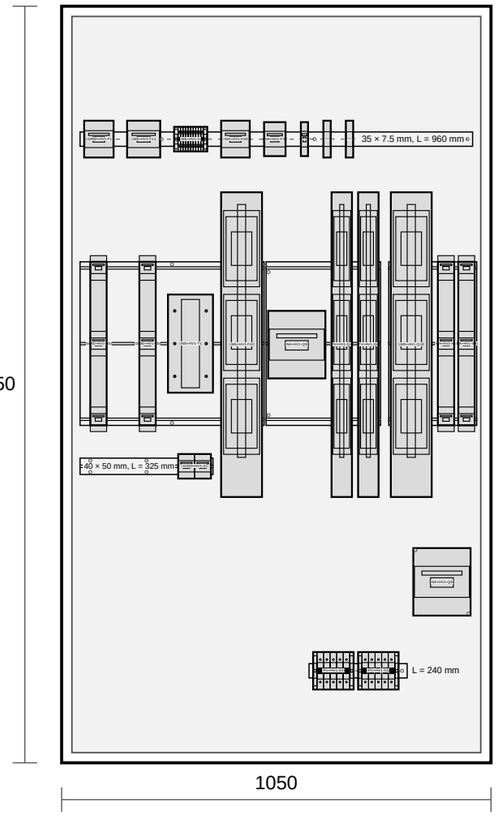


Inverter 1

Inverter 2

Company: OpenECraft	Date: 2026-11-02	Revision: A	Project / page description: Main LV distribution industrial plant	Page: =PV+HV1/5.1	Sheet: 14 / 21
	Creator: OpenECraft	Software: OpenECraft	Inverter feeders	Type: Schematic	Project: Main LV distribution industrial plant

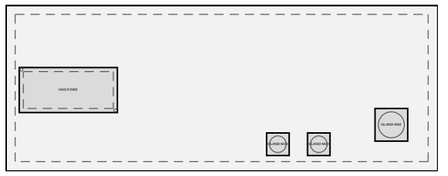
Mounting plate



Roof



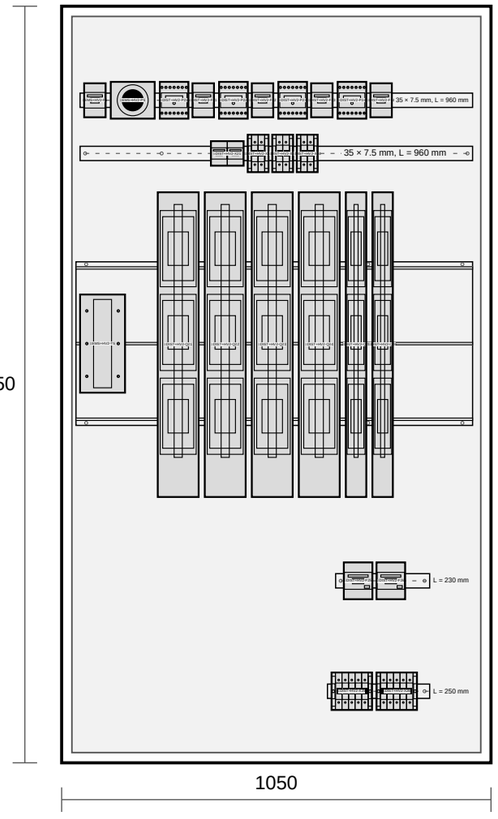
Bottom



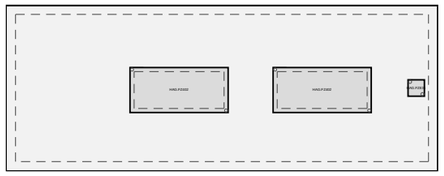
+HV1 HAG.FR24H2 - 1050 x 1850 x 400 mm - Scale 1:15

Company: OpenECraft	Date: 2026-11-02	Revision: A	Project / page description: Main LV distribution industrial plant	Page: 6.1	Sheet: 15 / 21
	Creator: OpenECraft	Software: OpenECraft	Mounting layout +HV1	Type: Mounting	Project: Main LV distribution industrial plant

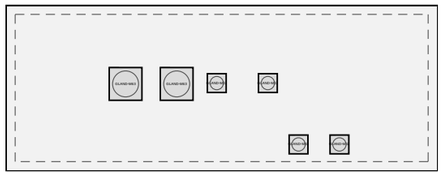
Mounting plate



Roof



Bottom



+HV2 HAG.FR24H2 - 1050 x 1850 x 400 mm - Scale 1:15

Company OpenECraft	Date 2026-11-02	Revision A	Project / page description Main LV distribution industrial plant	Page 6.2	Sheet 16 / 21
	Creator OpenECraft	Software OpenECraft	Mounting layout +HV2	Type Mounting	Project Main LV distribution industrial plant

Bill of materials

Pos	Qty	Unit	Part number	Type number	Manufacturer	Description	Devices	Unit price	Total
1	1	pcs	GEN.AC-OUT-25KW	AC-OUT-25KW	Generic	Air conditioning outdoor unit 25 kW cooling, VRF, 400 V AC	=DIST+ROOF-EQ24	9600.00 EUR	9600.00
2	0.33	m	GEN.BB-1X30X10	BB-1X30X10	Generic	Busbar 1-pole, Cu 30 x 10 mm, for N, PE or PEN	+HV1	40.00 EUR	13.20
2.1	1	pcs				Cut length 325 mm	+HV1		incl.
3	2.22	m	GEN.BB-3X30X10-185	BB-3X30X10-185	Generic	Busbar system 3-pole, Cu 30 x 10 mm, 185 mm centre distance, for NH fu…	+HV1, +HV2	168.00 EUR	372.96
3.1	1	pcs				Cut length 450 mm	+HV1		incl.
3.2	2	pcs				Cut length 400 mm	+HV1		incl.
3.3	1	pcs				Cut length 970 mm	+HV2		incl.
4	17	pcs	GEN.BB-HOLDER-3P	BB-HOLDER-3P	Generic	Busbar holder 3-pole for 12 x 5 mm, 60 mm	+HV1, +HV2	6.40 EUR	108.80
5	50	m	GEN.CBL-NAYY-4X240	CBL-NAYY-4X240	Generic	Power cable NAYY-J 4 x 240 SE 0.6/1 kV, aluminium, for laying in the g…	=GRID-W1, =GRID-W2	21.50 EUR	1075.00
6	105	m	GEN.CBL-NYY-5X16	CBL-NYY-5X16	Generic	Power cable NYY-J 5 x 16 RM 0.6/1 kV	=DIST-W23, =DIST-W24, =DIST-W25, =DIST-W26	9.60 EUR	1008.00
7	90	m	GEN.CBL-NYY-5X35	CBL-NYY-5X35	Generic	Power cable NYY-J 5 x 35 RM 0.6/1 kV	=DIST-W22, =PV-W41, =PV-W42	19.50 EUR	1755.00
8	65	m	GEN.CBL-NYY-5X95	CBL-NYY-5X95	Generic	Power cable NYY-J 5 x 95 SM 0.6/1 kV	=DIST-W21, =PV-W43	46.00 EUR	2990.00
9	2	pcs	GEN.CT-SET-400-5A	CT-SET-400-5A	Generic	Current transformer set 3 x 400/5 A, class 0.5S, 5 VA, for busbars up …	=EMS+HV2-T5, =MS+HV1-T1	210.00 EUR	420.00
10	3	pcs	GEN.D01-GG-10A	D01-GG-10A	Generic	NEOZED fuse link D01, gG, 10 A, 400 V AC	=MS+HV1-F11	1.60 EUR	4.80
11	16	pcs	GEN.EB-35	EB-35	Generic	End bracket for TS 35 mounting rail	=DIST+HV2-X22, =DIST+HV2-X23, =DIST+HV2-X24	1.10 EUR	17.60
12	1	pcs	GEN.EVSE-DC-100KW	EVSE-DC-100KW	Generic	DC fast charging station 100 kW, CCS, 400 V AC input, for public charg…	=DIST+CHG-E21	28500.00 EUR	28500.00
13	124	pcs	GEN.FER-0.75	FER-0.75	Generic	Ferrule 0.75 mm², insulated, grey, 8 mm	wiring	0.03 EUR	3.72
14	6	pcs	GEN.FER-1.0	FER-1.0	Generic	Ferrule 1 mm², insulated, red, 8 mm	wiring	0.03 EUR	0.18
15	24	pcs	GEN.FER-10	FER-10	Generic	Ferrule 10 mm², insulated, red, 12 mm	wiring	0.03 EUR	0.72
16	58	pcs	GEN.FER-16	FER-16	Generic	Ferrule 16 mm², insulated, blue, 12 mm	wiring	0.03 EUR	1.74
17	44	pcs	GEN.FER-2.5	FER-2.5	Generic	Ferrule 2.5 mm², insulated, blue, 8 mm	wiring	0.03 EUR	1.32
18	4	pcs	GEN.GLAND-M32	GLAND-M32	Generic	Cable gland M32 x 1.5, polyamide, light grey, IP68, cable Ø 13 – 21 mm	+HV2	2.80 EUR	11.20
19	2	pcs	GEN.GLAND-M40	GLAND-M40	Generic	Cable gland M40 x 1.5, polyamide, light grey, IP68, cable Ø 22 – 32 mm	+HV1	4.60 EUR	9.20
20	3	pcs	GEN.GLAND-M63	GLAND-M63	Generic	Cable gland M63 x 1.5, polyamide, light grey, IP68, cable Ø 34 – 48 mm	+HV1, +HV2	11.00 EUR	33.00
21	2	pcs	GEN.HP-AW-12KW	HP-AW-12KW	Generic	Heat pump air / water 12 kW, 400 V, inverter, flow up to 70 °C, indoor…	=DIST+TR-EQ25, =DIST+TR-EQ26	9800.00 EUR	19600.00
22	1	pcs	GEN.INV-BAT-50KW	INV-BAT-50KW	Generic	Battery inverter 3-phase 50 kW, 400 V AC, for commercial battery stora…	=PV+INV-TB43	9800.00 EUR	9800.00
23	2	pcs	GEN.INV-PV-40KW	INV-PV-40KW	Generic	PV inverter 3-phase 40 kW, 4 MPP trackers, 400 V AC, wall-mounted	=PV+INV-TB41, =PV+INV-TB42	4200.00 EUR	8400.00
24	1	pcs	GEN.LMP-DIN-GN-230	LMP-DIN-GN-230	Generic	Modular indicator lamp green, LED 230 V AC, 1 module	=NA+HV1-P31	14.50 EUR	14.50
25	1	pcs	GEN.LMP-DIN-RD-230	LMP-DIN-RD-230	Generic	Modular indicator lamp red, LED 230 V AC, 1 module	=NA+HV1-P30	14.50 EUR	14.50
26	22	pcs	GEN.MARK-CABLE	MARK-CABLE	Generic	Cable marker for cable Ø 4 – 10 mm, white, printable	marking	0.12 EUR	2.64
27	45	pcs	GEN.MARK-DEV	MARK-DEV	Generic	Device marker 15 x 5 mm, white, printable	marking	0.08 EUR	3.60
28	66	pcs	GEN.MARK-TB-5	MARK-TB-5	Generic	Terminal marker 5.2 mm, white, printable	marking	0.02 EUR	1.32
29	378	pcs	GEN.MARK-WIRE	MARK-WIRE	Generic	Wire marker sleeve for 0.5 – 2.5 mm², white, printable	marking	0.03 EUR	11.34
30	1	pcs	GEN.METER-3PT-CT	METER-3PT-CT	Generic	Energy meter 3-phase, transformer-operated x/5 A, two directions, for …	=MS+HV1-P1	0.00 EUR	0.00
31	6	pcs	GEN.NH00-GG-50A	NH00-GG-50A	Generic	NH fuse link size NH00, gG, 50 A, 500 V AC	=DIST+HV2-Q25, =DIST+HV2-Q26	6.90 EUR	41.40
32	6	pcs	GEN.NH00-GG-80A	NH00-GG-80A	Generic	NH fuse link size NH00, gG, 80 A, 500 V AC	=PV+HV1-Q41, =PV+HV1-Q42	7.40 EUR	44.40
33	3	pcs	GEN.NH1-GG-100A	NH1-GG-100A	Generic	NH fuse link size NH1, gG, 100 A, 500 V AC	=DIST+HV2-Q22	11.40 EUR	34.20
34	3	pcs	GEN.NH1-GG-160A	NH1-GG-160A	Generic	NH fuse link size NH1, gG, 160 A, 500 V AC	=DIST+HV2-Q21	12.90 EUR	38.70
35	6	pcs	GEN.NH1-GG-63A	NH1-GG-63A	Generic	NH fuse link size NH1, gG, 63 A, 500 V AC	=DIST+HV2-Q23, =DIST+HV2-Q24	10.90 EUR	65.40
36	2	pcs	GEN.NH2-BASE-3P-400A	NH2-BASE-3P-400A	Generic	NH fuse base size 2, 3-pole, 400 A, 690 V AC, DIN 43620, V-clamps 35 -…	=GRID+HAK1-F1, =GRID+HAK2-F1	98.00 EUR	196.00

… 40 more rows – see Reports window / CSV export

Company: OpenECraft	Date: 2026-11-02	Revision: A	Project / page description: Main LV distribution industrial plant	Page: 7.1	Sheet: 17 / 21
	Creator: OpenECraft	Software: OpenECraft	Bill of materials	Type: Report	Project: Main LV distribution industrial plant

Device list

Device tag	Main function	Function text	Location	Aux. functions	Part number	Description
=DIST+CHG-E21	Plug female socket ×5		/3.2.3	0	GEN.EVSE-DC-100KW	DC fast charging station 100 kW, CCS, 400 V AC input, for public cha…
=DIST+HV2-F21	Circuit breaker 3-pole	Measuring voltages	/3.2.8	0	HAG.MCN306	Miniature circuit breaker 3P C6, 6 kA, 400 V AC, 3 modules
=DIST+HV2-F22	Circuit breaker 3-pole	Measuring voltages	/3.3.8	0	HAG.MCN306	Miniature circuit breaker 3P C6, 6 kA, 400 V AC, 3 modules
=DIST+HV2-F23	Circuit breaker 3-pole	Measuring voltages	/3.4.8	0	HAG.MCN306	Miniature circuit breaker 3P C6, 6 kA, 400 V AC, 3 modules
=DIST+HV2-F24	Circuit breaker 3-pole	Measuring voltages	/3.5.8	0	HAG.MCN306	Miniature circuit breaker 3P C6, 6 kA, 400 V AC, 3 modules
=DIST+HV2-F25	Residual current device 4-pole	Type B, 30 mA	/3.1.2	0	HAG.CDB640E	Residual current circuit breaker 4P 40 A, 30 mA, type B, 10 kA, 4 mo…
=DIST+HV2-F26	Residual current device 4-pole	Type B, 30 mA	/3.1.6	0	HAG.CDB640E	Residual current circuit breaker 4P 40 A, 30 mA, type B, 10 kA, 4 mo…
=DIST+HV2-P21	Energy meter 3-phase, transformer-operated	Energy meter, Tree bus	/3.2.7	0	LOX.100652	Energy meter 3-phase for 1 A / 5 A current transformers, Tree, MID, …
=DIST+HV2-P22	Energy meter 3-phase, transformer-operated	Energy meter, Tree bus	/3.3.7	0	LOX.100652	Energy meter 3-phase for 1 A / 5 A current transformers, Tree, MID, …
=DIST+HV2-P23	Energy meter 3-phase, transformer-operated	Energy meter, Tree bus	/3.4.7	0	LOX.100652	Energy meter 3-phase for 1 A / 5 A current transformers, Tree, MID, …
=DIST+HV2-P24	Energy meter 3-phase, transformer-operated	Energy meter, Tree bus	/3.5.7	0	LOX.100652	Energy meter 3-phase for 1 A / 5 A current transformers, Tree, MID, …
=DIST+HV2-Q21	Current transformer	150/5 A	/3.2.3	0	HAG.LVSG1CPX, 3× HAG.LVZW150, HAG.L…	NH1 fuse switch disconnector strip size NH1, 3P, 250 A, for 185 mm bu…
=DIST+HV2-Q22	Current transformer	150/5 A	/3.3.3	0	HAG.LVSG1CPX, 3× HAG.LVZW150, HAG.L…	NH1 fuse switch disconnector strip size NH1, 3P, 250 A, for 185 mm bu…
=DIST+HV2-Q23	Current transformer	150/5 A	/3.4.3	0	HAG.LVSG1CPX, 3× HAG.LVZW150, 3× NH…	NH1 fuse switch disconnector strip size NH1, 3P, 250 A, for 185 mm bu…
=DIST+HV2-Q24	Current transformer	150/5 A	/3.5.3	0	HAG.LVSG1CPX, 3× HAG.LVZW150, 3× NH…	NH1 fuse switch disconnector strip size NH1, 3P, 250 A, for 185 mm bu…
=DIST+HV2-Q25	Fuse switch-disconnector 3-pole	Heat pump NH00 3 x 50 A	/3.1.2	0	HAG.LVSG00RPX, 3× GEN.NH00-GG-50A	NH00 fuse switch disconnector strip size NH00, 3P, 160 A, for 185 mm b…
=DIST+HV2-Q26	Fuse switch-disconnector 3-pole	Heat pump NH00 3 x 50 A	/3.1.6	0	HAG.LVSG00RPX, 3× GEN.NH00-GG-50A	NH00 fuse switch disconnector strip size NH00, 3P, 160 A, for 185 mm b…
=DIST+HV2-X21	N terminal ×2		/3.2.6	0	HAG.KS30C	Busbar terminal for Al / Cu cables 120 - 300 mm² on busbars 20 - 30 …
=DIST+HV2-X22	N terminal ×2		/3.3.6	0	GEN.TB-N-35, GEN.TB-PE-35	Neutral terminal 35 mm², blue
=DIST+HV2-X23	N terminal ×2		/3.4.6	0	GEN.TB-N-35, GEN.TB-PE-35	Neutral terminal 35 mm², blue
=DIST+HV2-X24	N terminal ×2		/3.5.6	0	GEN.TB-N-35, GEN.TB-PE-35	Neutral terminal 35 mm², blue
=DIST+HV2-X25	Terminal ×5		/3.1.2	0	GEN.TB-35, GEN.TB-N-35, GEN.TB-PE-35	Feed-through terminal 35 mm², grey
=DIST+HV2-X26	Terminal ×5		/3.1.6	0	GEN.TB-35, GEN.TB-N-35, GEN.TB-PE-35	Feed-through terminal 35 mm², grey
=DIST+ROOF-EQ24	Plug female socket ×5		/3.5.3	0	GEN.AC-OUT-25KW	Air conditioning outdoor unit 25 kW cooling, VRF, 400 V AC
=DIST+TR-EQ25	Plug female socket ×5		/3.1.2	0	GEN.HP-AW-12KW	Heat pump air / water 12 kW, 400 V, inverter, flow up to 70 °C, indo…
=DIST+TR-EQ26	Plug female socket ×5		/3.1.6	0	GEN.HP-AW-12KW	Heat pump air / water 12 kW, 400 V, inverter, flow up to 70 °C, indo…
=DIST+UV1-E22	Plug female socket ×5		/3.3.3	0	GEN.SUBDIST-48M	Sub-distribution board 4 rows x 12 modules, wall-mounted, main termi…
=DIST+UV2-E23	Plug female socket ×5		/3.4.3	0	GEN.SUBDIST-48M	Sub-distribution board 4 rows x 12 modules, wall-mounted, main termi…
=EMS+HV2-F5	Circuit breaker 3-pole	Measuring voltages	/2.3.8	0	HAG.MCN306	Miniature circuit breaker 3P C6, 6 kA, 400 V AC, 3 modules
=EMS+HV2-P5	Energy meter 3-phase, transformer-operated	Power analyser UMG 604-PRO	/2.3.7	0	JAN.52.16.202	Power analyser UMG 604-PRO, 230 V AC supply, 4 voltage and 4 current…
=EMS+HV2-T5	Current transformer	400/5 A	/2.3.3	0	GEN.CT-SET-400-5A	Current transformer set 3 x 400/5 A, class 0.5S, 5 VA, for busbars u…
=GRID+HAK1-F1	Fuse 3-pole	House connection box 1 NH2 3 x 315 A gG	/2.1.2	0	GEN.NH2-BASE-3P-400A, 3× GEN.NH2-63…	NH2 fuse base size 2, 3-pole, 400 A, 690 V AC, DIN 43620, V-clamps 35…
=GRID+HAK2-F1	Fuse 3-pole	House connection box 2 NH2 3 x 315 A gG	/2.1.4	0	GEN.NH2-BASE-3P-400A, 3× GEN.NH2-63…	NH2 fuse base size 2, 3-pole, 400 A, 690 V AC, DIN 43620, V-clamps 35…
=GRID+HV1-F1	Surge protective device	Surge protection T1 + T2 + T3	/2.1.5	0	HAG.SPA811Z	Combined surge arrester type 1 + 2 + 3, 4P, 12.5 kA, TT / TN-S, back…
=GRID+HV1-X01	Terminal ×3		/2.1.2	0	HAG.KS30C	Busbar terminal for Al / Cu cables 120 - 300 mm² on busbars 20 - 30 …
=GRID+HV1-X1	Terminal ×2		/2.1.2	0	HAG.KS30C	Busbar terminal for Al / Cu cables 120 - 300 mm² on busbars 20 - 30 …
=GRID+HV1-X02	Terminal ×3		/2.1.4	0	HAG.KS30C	Busbar terminal for Al / Cu cables 120 - 300 mm² on busbars 20 - 30 …
=MS+HV1-F10	Fuse switch-disconnector 3-pole	Isolation of the supply busbar NH3 strip, sol…	/2.2.3	0	HAG.LVSG3CPX, 3× GEN.NH3-SOLID-LINK	NH3 fuse switch disconnector strip size NH3, 3P, 630 A, for 185 mm bu…
=MS+HV1-F11	Fuse switch-disconnector 3-pole	Voltage paths D01 3 x 10 A	/2.2.8	0	HAG.L73M, 3× GEN.D01-GG-10A	Fuse switch disconnector D01 / D02 (NEOZED) 3P 63 A, with blown fuse…
=MS+HV1-P1	Energy meter 3-phase, transformer-operated	Meter of the DSO on the meter changing plate	/2.2.7	0	GEN.METER-3PT-CT	Energy meter 3-phase, transformer-operated x/5 A, two directions, fo…

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Terminal diagram

Strip	Terminal	Level	Jumper	External (top)	Internal (bottom)	Potential	Location	Function text
=DIST+HV2-X21	N			=DIST+HV2-F25:N, =DIST+HV2-F26:N, =DIST+HV2-P21:N, =DIST+HV2-P22:N, =DIST…	=DIST+CHG-E21:N	PEN	/3.2.6	
=DIST+HV2-X21	PE			=DIST+HV2-F25:N, =DIST+HV2-F26:N, =DIST+HV2-P21:N, =DIST+HV2-P22:N, =DIST…	=DIST+CHG-E21:PE	PEN	/3.2.6	
=DIST+HV2-X22	End bracket			GEN.EB-35				
=DIST+HV2-X22	N			=DIST+HV2-F25:N, =DIST+HV2-F26:N, =DIST+HV2-P21:N, =DIST+HV2-P22:N, =DIST…	=DIST+UV1-E22:N	PEN	/3.3.6	
=DIST+HV2-X22	PE			=DIST+HV2-F25:N, =DIST+HV2-F26:N, =DIST+HV2-P21:N, =DIST+HV2-P22:N, =DIST…	=DIST+UV1-E22:PE	PEN	/3.3.6	
=DIST+HV2-X22	End bracket			GEN.EB-35				
=DIST+HV2-X23	End bracket			GEN.EB-35				
=DIST+HV2-X23	N			=DIST+HV2-F25:N, =DIST+HV2-F26:N, =DIST+HV2-P21:N, =DIST+HV2-P22:N, =DIST…	=DIST+UV2-E23:N	PEN	/3.4.6	
=DIST+HV2-X23	PE			=DIST+HV2-F25:N, =DIST+HV2-F26:N, =DIST+HV2-P21:N, =DIST+HV2-P22:N, =DIST…	=DIST+UV2-E23:PE	PEN	/3.4.6	
=DIST+HV2-X23	End bracket			GEN.EB-35				
=DIST+HV2-X24	End bracket			GEN.EB-35				
=DIST+HV2-X24	N			=DIST+HV2-F25:N, =DIST+HV2-F26:N, =DIST+HV2-P21:N, =DIST+HV2-P22:N, =DIST…	=DIST+ROOF-EQ24:N	PEN	/3.5.6	
=DIST+HV2-X24	PE			=DIST+HV2-F25:N, =DIST+HV2-F26:N, =DIST+HV2-P21:N, =DIST+HV2-P22:N, =DIST…	=DIST+ROOF-EQ24:PE	PEN	/3.5.6	
=DIST+HV2-X24	End bracket			GEN.EB-35				
=DIST+HV2-X25	End bracket			GEN.EB-35				
=DIST+HV2-X25	1			=DIST+HV2-F25:2	=DIST+TR-EQ25:L1	N28	/3.1.2	
=DIST+HV2-X25	2			=DIST+HV2-F25:4	=DIST+TR-EQ25:L2	N29	/3.1.2	
=DIST+HV2-X25	3			=DIST+HV2-F25:6	=DIST+TR-EQ25:L3	N30	/3.1.3	
=DIST+HV2-X25	N			=DIST+HV2-F25:N'	=DIST+TR-EQ25:N	N31	/3.1.3	
=DIST+HV2-X25	PE			=DIST+HV2-F25:N, =DIST+HV2-F26:N, =DIST+HV2-P21:N, =DIST+HV2-P22:N, =DIST…	=DIST+TR-EQ25:PE	PEN	/3.1.3	
=DIST+HV2-X25	End bracket			GEN.EB-35				
=DIST+HV2-X26	End bracket			GEN.EB-35				
=DIST+HV2-X26	1			=DIST+HV2-F26:2	=DIST+TR-EQ26:L1	N35	/3.1.6	
=DIST+HV2-X26	2			=DIST+HV2-F26:4	=DIST+TR-EQ26:L2	N36	/3.1.6	
=DIST+HV2-X26	3			=DIST+HV2-F26:6	=DIST+TR-EQ26:L3	N37	/3.1.6	
=DIST+HV2-X26	N			=DIST+HV2-F26:N'	=DIST+TR-EQ26:N	N38	/3.1.6	
=DIST+HV2-X26	PE			=DIST+HV2-F25:N, =DIST+HV2-F26:N, =DIST+HV2-P21:N, =DIST+HV2-P22:N, =DIST…	=DIST+TR-EQ26:PE	PEN	/3.1.7	
=DIST+HV2-X26	End bracket			GEN.EB-35				
=GRID+HV1-X01	1			=GRID+HV1-F1:L1, =GRID+HV1-X02:1, =MS+HV1-F11:1, =MS+HV1-T1:1P1, =GRID…	=GRID+HAK1-F1:2	HV-L1	/2.1.2	
=GRID+HV1-X01	2			=GRID+HV1-F1:L2, =GRID+HV1-X02:2, =MS+HV1-F11:3, =MS+HV1-T1:2P1, =GRID…	=GRID+HAK1-F1:4	HV-L2	/2.1.2	
=GRID+HV1-X01	3			=GRID+HV1-F1:L3, =GRID+HV1-X02:3, =MS+HV1-F11:5, =MS+HV1-T1:3P1, =GRID…	=GRID+HAK1-F1:6	HV-L3	/2.1.2	
=GRID+HV1-X1	1			=GRID+HV1-X1:2, =PEN	=DIST+HV2-F25:N, =DIST+HV2-F26:N, =DIST+HV2-P21:N, =DIST+HV2-P22:N, =DI…	N-L	/2.1.2	
=GRID+HV1-X1	2			=GRID+HV1-X1:1, =PEN	=DIST+HV2-F25:N, =DIST+HV2-F26:N, =DIST+HV2-P21:N, =DIST+HV2-P22:N, =DI…	N-L	/2.1.4	
=GRID+HV1-X02	1			=GRID+HV1-F1:L1, =GRID+HV1-X01:1, =MS+HV1-F11:1, =MS+HV1-T1:1P1, =GRID…	=GRID+HAK2-F1:2	HV-L1	/2.1.4	
=GRID+HV1-X02	2			=GRID+HV1-F1:L2, =GRID+HV1-X01:2, =MS+HV1-F11:3, =MS+HV1-T1:2P1, =GRID…	=GRID+HAK2-F1:4	HV-L2	/2.1.4	
=GRID+HV1-X02	3			=GRID+HV1-F1:L3, =GRID+HV1-X01:3, =MS+HV1-F11:5, =MS+HV1-T1:3P1, =GRID…	=GRID+HAK2-F1:6	HV-L3	/2.1.4	
=MS+HV1-X1	End bracket			GEN.EB-35				
=MS+HV1-X1	1			=MS+HV1-T1:1S1	=MS+HV1-P1:1S1	N2	/2.2.7	Test terminal block
=MS+HV1-X1	2			=MS+HV1-T1:1S2	=MS+HV1-P1:1S2	N3	/2.2.7	
=MS+HV1-X1	3			=MS+HV1-T1:2S1	=MS+HV1-P1:2S1	N5	/2.2.7	

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Cable overview

Cable	Type	Cores used	Cross-section	Length (m)	From	To	Part number	Description
=DIST-W21	CBL-NYY-5X95	5/5	95 mm²	40	=DIST+HV2-Q21, =DIST+HV2-X21	=DIST+CHG-E21	GEN.CBL-NYY-5X95	DC charging station
=DIST-W22	CBL-NYY-5X35	5/5	35 mm²	30	=DIST+HV2-Q22, =DIST+HV2-X22	=DIST+UV1-E22	GEN.CBL-NYY-5X35	Sub-distribution workshop
=DIST-W23	CBL-NYY-5X16	5/5	16 mm²	30	=DIST+HV2-Q23, =DIST+HV2-X23	=DIST+UV2-E23	GEN.CBL-NYY-5X16	Sub-distribution offices
=DIST-W24	CBL-NYY-5X16	5/5	16 mm²	35	=DIST+HV2-Q24, =DIST+HV2-X24	=DIST+ROOF-EQ24	GEN.CBL-NYY-5X16	Air conditioning
=DIST-W25	CBL-NYY-5X16	5/5	16 mm²	20	=DIST+HV2-X25	=DIST+TR-EQ25	GEN.CBL-NYY-5X16	Heat pump 1
=DIST-W26	CBL-NYY-5X16	5/5	16 mm²	20	=DIST+HV2-X26	=DIST+TR-EQ26	GEN.CBL-NYY-5X16	Heat pump 2
=GRID-W1	CBL-NAYY-4X240	4/4	240 mm²	25	=GRID+HV1-X01, =GRID+HV1-X1	=GRID+HAK1-F1, =GRID+HV1-X1	GEN.CBL-NAYY-4X240	Supply from house connection box 1
=GRID-W2	CBL-NAYY-4X240	3/4	240 mm²	25	=GRID+HV1-X02	=GRID+HAK2-F1	GEN.CBL-NAYY-4X240	Supply from house connection box 2
=PV-W41	CBL-NYY-5X35	5/5	35 mm²	30	=PV+HV1-X41	=PV+INV-TB41	GEN.CBL-NYY-5X35	Inverter 1
=PV-W42	CBL-NYY-5X35	5/5	35 mm²	30	=PV+HV1-X42	=PV+INV-TB42	GEN.CBL-NYY-5X35	Inverter 2
=PV-W43	CBL-NYY-5X95	5/5	95 mm²	25	=DIST+HV2-F25, =DIST+HV2-F26, =DIST+HV2...	=DIST+HV2-F25, =DIST+HV2-F26, =DIST+HV2...	GEN.CBL-NYY-5X95	Battery inverter

Panel legend

Enclosure	Pos	Device tag	Description	Part number	Mounting	Position (mm)	Size (mm)	Length (mm)
+HV1	1	=GRID+HV1-F1	Combined surge arrester type 1 + 2 + 3, 4P, 12.5 kA, TT / TN-S, …	HAG.SPA811Z	Mounting plate	30 / 255	72 × 90	
+HV1	2	=MS+HV1-F11	Fuse switch disconnector D01 / D02 (NEOZED) 3P 63 A, with blown …	HAG.L73M	Mounting plate	135 / 255	81 × 90	
+HV1	3	=NA+HV1-K30	Voltage and frequency relay for grid and system protection (NA p…	HAG.EU400	Mounting plate	365 / 255	70 × 90	
+HV1	4	=NA+HV1-P30	Modular indicator lamp red, LED 230 V AC, 1 module	GEN.LMP-DIN-RD-230	Mounting plate	615 / 255	18 × 90	
+HV1	5	=NA+HV1-P31	Modular indicator lamp green, LED 230 V AC, 1 module	GEN.LMP-DIN-GN-230	Mounting plate	670 / 255	18 × 90	
+HV1	6	=NA+HV1-F30	Miniature circuit breaker 3P C6, 6 kA, 400 V AC, 3 modules	HAG.MCN306	Mounting plate	470 / 258	52 × 83	
+HV1	7	=NA+HV1-F33	Miniature circuit breaker 1P C6, 6 kA, 230/400 V AC, 1 module	HAG.MCN106	Mounting plate	560 / 258	18 × 83	
+HV1	8	=MS+HV1-X1	Disconnect terminal 4 mm², knife disconnect, grey	GEN.TB-DISC-4	Mounting plate	250 / 270	81 × 60	
+HV1	9	=MS+HV1-F10	NH fuse switch disconnector strip size NH3, 3P, 630 A, for 185 m…	HAG.LVSG3CPX	Mounting plate	365 / 430	100 × 745	
+HV1	10	=PV+HV1-Q41	NH fuse switch disconnector strip size NH00, 3P, 160 A, for 185 …	HAG.LVSG00RPX	Mounting plate	635 / 430	50 × 745	
+HV1	11	=PV+HV1-Q42	NH fuse switch disconnector strip size NH00, 3P, 160 A, for 185 …	HAG.LVSG00RPX	Mounting plate	700 / 430	50 × 745	
+HV1	12	=MS+HV1-Q10	NH fuse switch disconnector strip size NH3, 3P, 630 A, for 185 m…	HAG.LVSG3CPX	Mounting plate	780 / 430	100 × 745	
+HV1	13	=GRID+HV1-X01	Busbar terminal for Al / Cu cables 120 - 300 mm² on busbars 20 -…	HAG.KS30C	Mounting plate	45 / 600	40 × 400	
+HV1	14	=GRID+HV1-X02	Busbar terminal for Al / Cu cables 120 - 300 mm² on busbars 20 -…	HAG.KS30C	Mounting plate	165 / 600	40 × 400	
+HV1	15	=NA+HV1-X30	Busbar terminal for Al / Cu cables 120 - 300 mm² on busbars 20 -…	HAG.KS30C	Mounting plate	895 / 600	40 × 400	
+HV1	16	=NA+HV1-X31	Busbar terminal for Al / Cu cables 120 - 300 mm² on busbars 20 -…	HAG.KS30C	Mounting plate	945 / 600	40 × 400	
+HV1	17	=MS+HV1-T1	Current transformer set 3 x 400/5 A, class 0.5S, 5 VA, for busba…	GEN.CT-SET-400-5A	Mounting plate	235 / 680	110 × 240	
+HV1	18	=NA+HV1-Q30	Circuit breaker h3+ P250, electronic trip unit LSnI, 4P, 160 A, …	HAG.HNT161GR	Mounting plate	480 / 720	140 × 165	
+HV1	19	=GRID+HV1-X1	Busbar terminal for Al / Cu cables 120 - 300 mm² on busbars 20 -…	HAG.KS30C	Mounting plate	260 / 1070	80 × 60	
+HV1	20	=NA+HV1-Q31	Circuit breaker h3+ P250, electronic trip unit LSnI, 4P, 160 A, …	HAG.HNT161GR	Mounting plate	835 / 1300	140 × 165	
+HV1	21	=PV+HV1-X41	Feed-through terminal 35 mm², grey	GEN.TB-35	Mounting plate	590 / 1554	99 × 92	
+HV1	22	=PV+HV1-X42	Feed-through terminal 35 mm², grey	GEN.TB-35	Mounting plate	700 / 1554	99 × 92	
+HV1	23		Mounting rail TS 35 x 7.5, perforated, 1 m	GEN.RAIL-TS35-1M	Mounting plate	20 / 282	35 × 7.5	960
+HV1	24		Mounting rail TS 35 x 7.5, perforated, 1 m	GEN.RAIL-TS35-1M	Mounting plate	580 / 1582	35 × 7.5	240
+HV1	25		Busbar system 3-pole, Cu 30 x 10 mm, 185 mm centre distance, for…	GEN.BB-3X30X10-185	Mounting plate	20 / 600	400 × 50	450
+HV1	26		Busbar system 3-pole, Cu 30 x 10 mm, 185 mm centre distance, for…	GEN.BB-3X30X10-185	Mounting plate	475 / 600	280 × 50	400
+HV1	27		Busbar system 3-pole, Cu 30 x 10 mm, 185 mm centre distance, for…	GEN.BB-3X30X10-185	Mounting plate	775 / 600	215 × 50	400
+HV1	28		Busbar 1-pole, Cu 30 x 10 mm, for N, PE or PEN	GEN.BB-1X30X10	Mounting plate	20 / 1080	40 × 50	325
+HV2	1	=EMS+HV2-P5	Power analyser UMG 604-PRO, 230 V AC supply, 4 voltage and 4 cur…	JAN.52.16.202	Mounting plate	95 / 160	108 × 90	
+HV2	2	=DIST+HV2-P21	Energy meter 3-phase for 1 A / 5 A current transformers, Tree, M…	LOX.100652	Mounting plate	215 / 160	70 × 90	
+HV2	3	=DIST+HV2-P22	Energy meter 3-phase for 1 A / 5 A current transformers, Tree, M…	LOX.100652	Mounting plate	360 / 160	70 × 90	
+HV2	4	=DIST+HV2-P23	Energy meter 3-phase for 1 A / 5 A current transformers, Tree, M…	LOX.100652	Mounting plate	505 / 160	70 × 90	
+HV2	5	=DIST+HV2-P24	Energy meter 3-phase for 1 A / 5 A current transformers, Tree, M…	LOX.100652	Mounting plate	650 / 160	70 × 90	
+HV2	6	=EMS+HV2-F5	Miniature circuit breaker 3P C6, 6 kA, 400 V AC, 3 modules	HAG.MCN306	Mounting plate	30 / 164	52 × 83	
+HV2	7	=DIST+HV2-F21	Miniature circuit breaker 3P C6, 6 kA, 400 V AC, 3 modules	HAG.MCN306	Mounting plate	295 / 164	52 × 83	
+HV2	8	=DIST+HV2-F22	Miniature circuit breaker 3P C6, 6 kA, 400 V AC, 3 modules	HAG.MCN306	Mounting plate	440 / 164	52 × 83	
+HV2	9	=DIST+HV2-F23	Miniature circuit breaker 3P C6, 6 kA, 400 V AC, 3 modules	HAG.MCN306	Mounting plate	585 / 164	52 × 83	
+HV2	10	=DIST+HV2-F24	Miniature circuit breaker 3P C6, 6 kA, 400 V AC, 3 modules	HAG.MCN306	Mounting plate	730 / 164	52 × 83	
+HV2	11	=DIST+HV2-X22	Neutral terminal 35 mm², blue	GEN.TB-N-35	Mounting plate	430 / 289	51 × 92	
+HV2	12	=DIST+HV2-X23	Neutral terminal 35 mm², blue	GEN.TB-N-35	Mounting plate	490 / 289	51 × 92	

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